

VAPOR GROWTH METHOD FOR III-V COMPOUND SEMICONDUCTOR

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Abstract

PURPOSE: To form an ultrathin film of an extremely highly homogeneous III-V compound semiconductor by an atomic layer epitaxial process suitable for mass-production, by alternately feeding a volatile organic compound of a group III element and volatile compound of a group V element onto a substrate crystal.

CONSTITUTION: An organic volatile compound of a group III element and a volatile compound of a V group element are alternately fed onto a substrate crystal to carry out growth of a III-V compound semiconductor by epitaxy. In the process, an organic compound having at least one bond of the groups III element to a halogen element is used as the organic volatile compound of the group III element. Elements, e.g. F, Br, I etc., in addition to Cl are effectively used as the halogen element of the organic compound of the group III element.